

Work Order ID 149325

July 22, 2016 2:39:25 PM

149325

AmoD

Page 1

Item ID: D2803-2	Accept	*N900040100*	Setup	Start *NS1*
Revision ID:				Stop *NS2*
Item Name: Bracket				
Start Date: 9/14/2016	Start Qty: 11.00	*11*	Cust Item ID:	
Required Date: 9/27/2016	Req'd Qty: 11.00	*11*	Customer:	
Reference:				

Approvals:	Process Plan: <u>STA</u>	Date: <u>7/25/16</u>	Tooling:	Date:	Run	Start *NR1*
	QC:	Date:	SPC (Y/N):	Date:		Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2803	C								
100	FLOW WATER JET	0.00							
100									
Waterjet	Memo	0.75							
FLOW CNC Waterjet	1-Cut as per File d2803-2_blank								
	Dwg Rev: <u>C</u>								
	Prog Rev: <u>C</u>								
	2-Deburr if necessary								
110	HAAS CNC VERTICAL MACHINING #1	0.07							
110									
HAAS 1	Memo	1.50							
HAAS CNC vertical machine #1	Machine as per folio FA102								
120	QC2- Inspect parts off machine FAI/FAIB	0.00							
120									
QC	Memo	0.02							
Quality Control									

11 as 16/08/23

11 DAS 44 3-89 16-09-16
16-09-1

11 DAS 44 3-89 16-09-16
16-09-

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

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Item ID: D2803-2 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Bracket
Start Date: 9/14/2016 Start Qty: 11.00 ***11*** Cust Item ID:
Required Date: 9/27/2016 Req'd Qty: 11.00 ***11*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.04							DAS 14 9-89
140 *140* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.13				(X11)	/		2016/09/20 BEB
145 *145* QC Quality Control	QC7-Inspect Chemical Conversion Coat Memo	0.00 0.02				(11)			DAS 38 9-89 SEP 20 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

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Item ID: D2803-2 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Bracket
Start Date: 9/14/2016 Start Qty: 11.00 ***11*** Cust Item ID:
Required Date: 9/27/2016 Req'd Qty: 11.00 ***11*** Customer:
Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Identify as per dwg & Stock Location: <i>W/O</i>	0.00							
150						<i>11X</i>			
Packaging	Memo <i>149425</i>	0.02							<i>16/09/20</i>
Packaging									
160	QC21- Final Inspection - Work Order Release	0.00							
160							DAS 21 9-89		SEP 21 2016
QC	Memo	0.18							
Quality Control							<i>sem</i>	<i>16/09/21</i>	

**DAS
36
9-89**

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval 	
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

Picklist Print

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Page 1

Work Order ID: 149325

149325

Parent Item: D2803-2

D2803-2

Parent Item Name: Bracket

Start Date: 9/14/2016

Required Date: 9/27/2016

Start Qty: 11.00

Required Qty: 11.00

Comments: IPP A 00.11.06New IssueEC
 IPP Rev:B Blanks now cut on Waterjet 06-06-14 JLM
 IPP Rev:C Removed Tumbling 08-09-10 JLM Verified By:EC IPP
 Rev:D add qc3 DD 10.02.19 Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B0.500X10.00 0		Purchased	No			100	f	25.7000	1.9167	22.19337			

M6061T6B0 500X10 000

6061-T6 Bar .500 x 10.00

on 11/08/23

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
MAT	1.7	
M131700	1.7	
MAT001	24	
M134984	24	

135377

20

DQA: _____ Date: _____

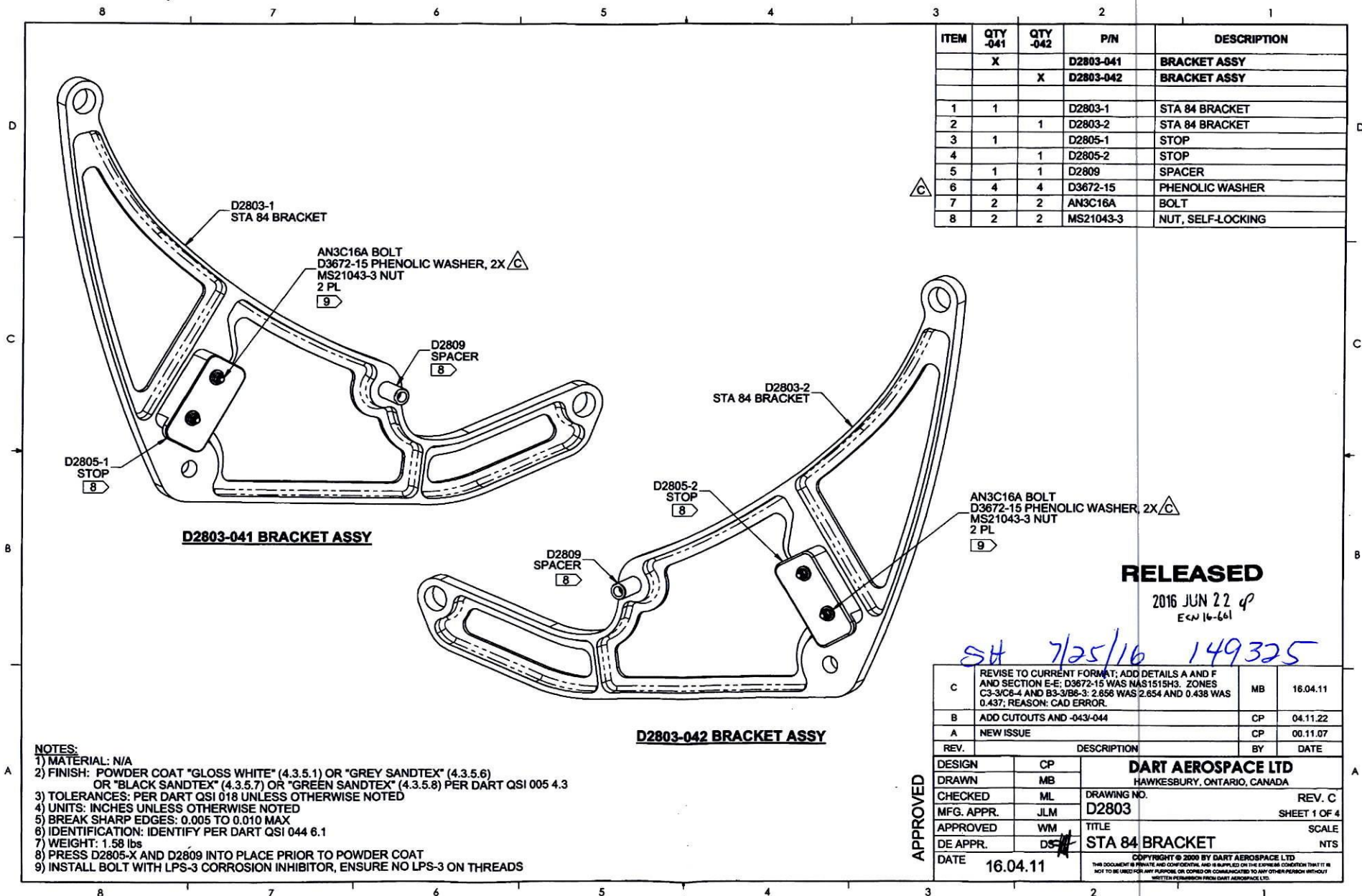
WORK ORDER NON-CONFORMANCE / UPDATE

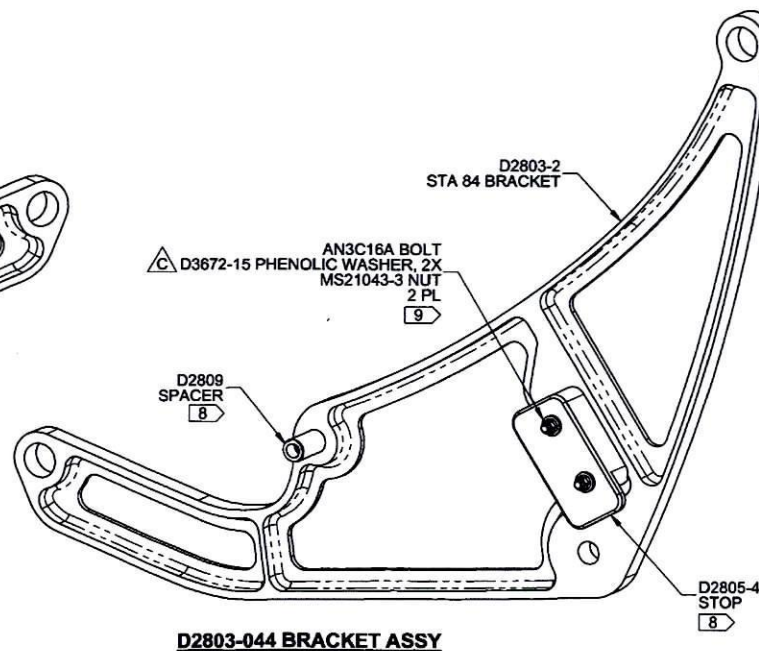
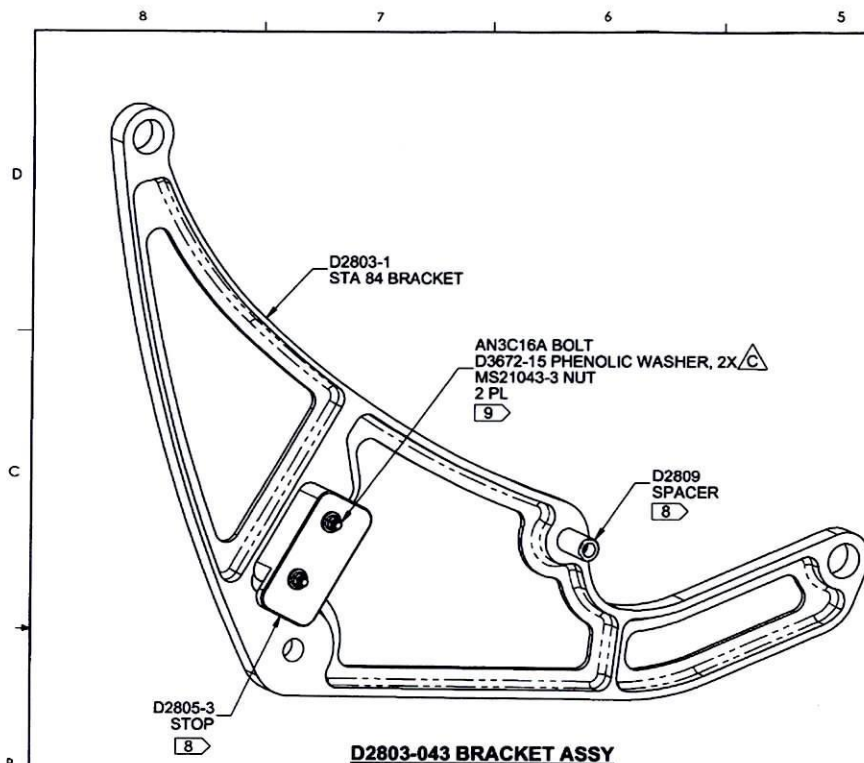


QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER :					





ITEM	QTY -043	QTY -044	P/N	DESCRIPTION
	X		D2803-043	BRACKET ASSY
		X	D2803-044	BRACKET ASSY
1	1		D2803-1	STA 84 BRACKET
2		1	D2803-2	STA 84 BRACKET
3	1		D2805-3	STOP
4		1	D2805-4	STOP
5	1	1	D2809	SPACER
6	4	4	D3672-15	PHENOLIC WASHER
7	2	2	AN3C16A	BOLT
8	2	2	MS21043-3	NUT, SELF-LOCKING

RELEASED

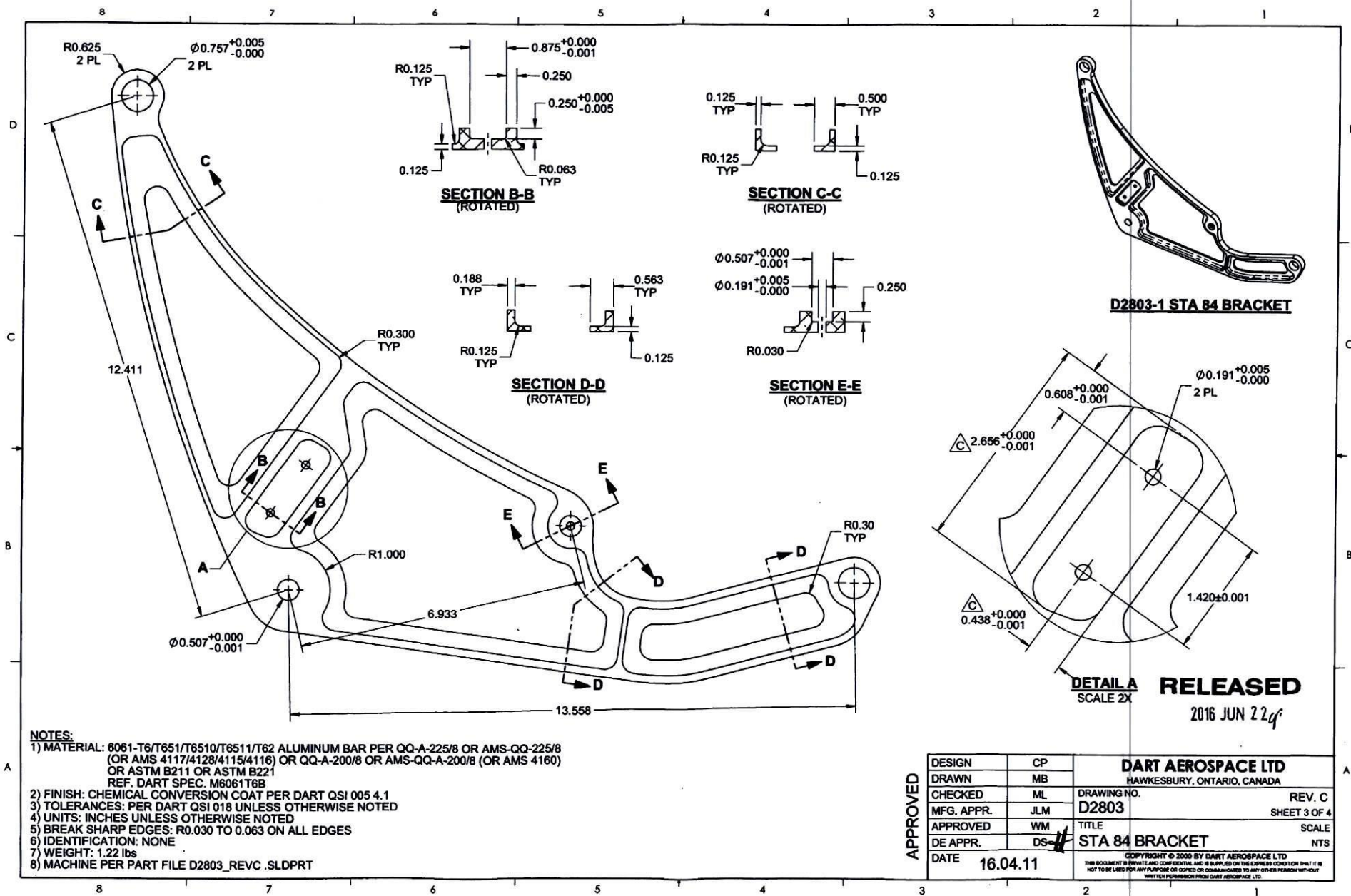
2016 JUN 22

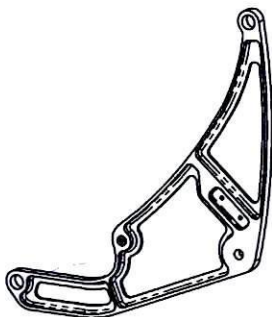
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT "GLOSS WHITE" (4.3.5.1) OR "GREY SANDEXT" (4.3.5.6) OR "BLACK SANDEXT" (4.3.5.7) OR "GREEN SANDEXT" (4.3.5.8) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER DART QSI 044 6.1
- 7) WEIGHT: 1.58 lbs
- 8) PRESS D2805-X AND D2809 INTO PLACE PRIOR TO POWDER COAT
- 9) INSTALL BOLT WITH LPS-3 CORROSION INHIBITOR, ENSURE NO LPS-3 ON THREADS

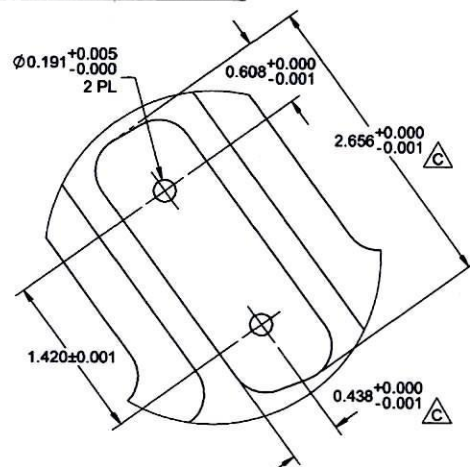
APPROVED

APPROVED	DESIGN	CP	DRAWING NO. D2803	DART AEROSPACE LTD	
	DRAWN	MB		HAWKESBURY, ONTARIO, CANADA	
	CHECKED	ML		REV. C	
	MFG. APPR.	JLM		SHEET 2 OF 4	
	APPROVED	WM		SCALE	
	DE APPR.	DS		NTS	
	DATE	16.04.11		COPYRIGHT © 2000 BY DART AEROSPACE LTD	
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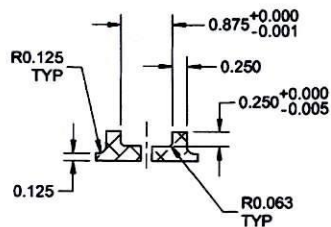




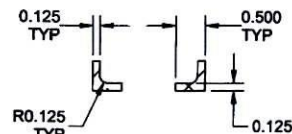
D2803-2 STA 84 BRACKET



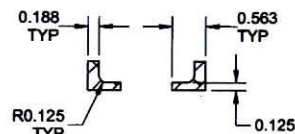
DETAIL F
SCALE 2X



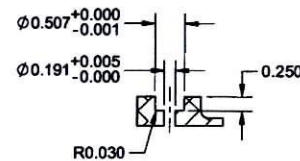
SECTION G-G
(ROTATED)



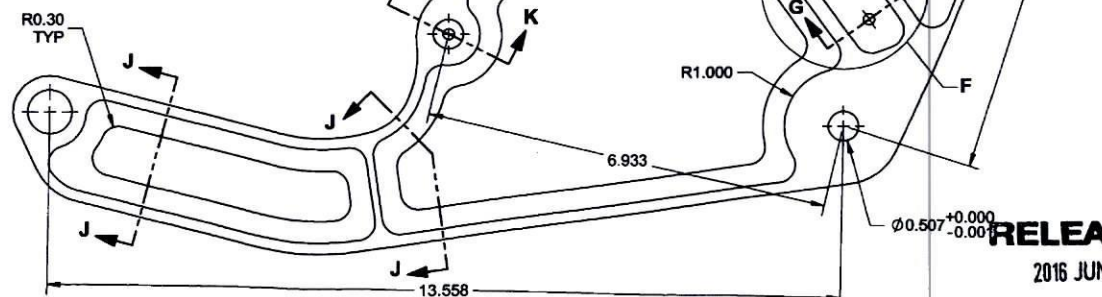
SECTION H-H
(ROTATED)



SECTION J-J
(ROTATED)



SECTION K-K
(ROTATED)



RELEASED
2016 JUN 22 *cp*

NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-225/8 (OR AMS 4117/4128/4115/4116) OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160) REF. DART SPEC. M6061T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: R0.030 TO 0.063 ON ALL EDGES
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.22 lbs
- 8) MACHINE PER PART FILE D2803_REV.C .SLDPRT

APPROVED

DESIGN	CP
DRAWN	MB
CHECKED	ML
MFG. APPR.	JLM
APPROVED	WM
DE APPR.	DS
DATE	16.04.11

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO.	REV. C
D2803	SHEET 4 OF 4
TITLE	SCALE
STA 84 BRACKET	NTS

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DART AEROSPACE LTD		Work Order:	149325
Description: Bracket		Part Number:	D2803-2
Inspection Dwg: D2803	Rev: <i>EC</i>	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.757	+0.005/-0.000	.758	/		Vern	FK-04
1.420	+/-0.001	1.420	/		"	"
Ø0.191	+0.005/-0.000	.191	/		"	"
Ø0.507	+0.000/-0.001	.5065	/		gauge pin	
Ø0.507 x 0.250	+0.000/-0.001	.5065 x .253	/		"	
12.411	+/-0.010	12.411	/		Tape	FK-05
6.933	+/-0.010	6.933	/		Vern	CNC-02
0.250	+/-0.010	.253	/		"	"
0.875	+0.000/-0.001	.8748	/		gauge pin	
0.250	+0.000/-0.005	.247	/		Vern	FK-04
0.125	+/-0.010	.123	/		"	"
0.125	+/-0.010	.125	/		"	"
0.500	+/-0.010	.497	/		"	"
0.125	+/-0.010	.123	/		"	"
0.188	+/-0.010	.189	/		"	"
0.562	+/-0.010	.562	/		"	"
0.125	+/-0.010	.125	/		"	"

Measured by:	DAS 44 9-89	Audited by:	DAS 74 9-89	Prototype Approval:	N/A
Date:	16-09-16	Date:	16/09/19	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.25	New Issue	KJ/JLM	
B	06.12.07	13.558 dimension removed	KJ/JLM	
C	08.01.16	Tolerance revised for 0.875 dimension	KJ/EC/DD	